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Please cancel claim 18.

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REMARKS

Restrictions has been required to limit the invention to the claims of one of the following groups:

Group I: Claims 1 – 17, drawn to a polyester film, classified in class 428, subclass 480.

Group II: Claim 18, drawn to a method for producing a polyester film, classified in class 523, subclass 351.

The Examiner is of the opinion that claims of Group I and II define different inventions. In order to be fully responsive to the Office Action, Applicants elect to retain the claims of Group I for further prosecution in the subject case, but Applicants retain the right to file one or more divisional applications or to take other appropriate action to protect the invention line within Group II.

Applicants have directed the Examiner to cancel claim 18 directed to the non-elective group. This election is an affirmation of our conversation (Dr. Schweitzer and Examiner Nikolas Uhler) on 12/05/01. Applicants reserve the right to file one or more divisional applications or to take other appropriate action to protect the invention line within Group II.

The inventors Ursula Murschall, Ulrich Kern, Guenther Crass, and Andreas Stopp are all inventors in the claims drawn in Group I.

Claims 1, 2, 4, 6, 8 – 11, and 14 – 17 stand rejected by the Examiner under 35 U.S.C. 103(a) as being unpatentable over Rakos et al., U.S.P. 6,251,505 in view of Oishi et al., U.S.P. 5,936,048. Quoting from the Examiner “Even though product-by-process claims are limited by and defined by the process, determination of patentability is based on product the itself. The patentability of a product does not depend on the method of production.” The Examiner comments are in directed to the phrase “fed directly by masterbatch technology during film production” in claim 1.

Claim 1 is amended removing the product by process phraseology, and drafted such that the claim reads on the components and properties of the materials comprising the film. In general, Rakos’505 teaches the inclusion of silica in the range of 1 - 8 % can cause light to diffuse through the film. Too little silica, and there is very little scatter. Too much silica, and the film become too opaque creating excessive haze in the film. Rakos’505 does not teach the incorporation of flame-retardants in film nor does he teach the utility of including flame-retardants in a compounded masterbatch; where the masterbatch has a vapor pressure of less than 80 mbars at 130°C. Applicants discuss the necessity for having a masterbatch prepared using special pre-drying and/or pre-crystallization on page 7, paragraph 5. Further discussion is on page 9, second paragraph, where the applicants describe the drying process under reduced pressure (vacuum), and gradually heating. The pressure is less than 80 mbars, and in a second drying operation the temperature is increased preferably from 30 130°C, and in a tertiary drying operation the masterbatch is post dried in a downstream vessel which is evacuated at temperatures from 90 - 180°C for up to eight hours. The extensive drying results in a masterbatch having excellent thermostability, which can be further augmented by the inclusion of a hydrolysis stabilizer. Rakos’505 does not teach the utility of an extensive drying process, as disclosed in the applicants’ invention, nor does Rakos teach the utility of a hydrolysis stabilizer.

Oishi, U.S.P. 5,936,048, teaches the utility of adding UV stabilizers, and in particular an additive, such as, dimethyl methyl phosphate, to impart flame-retardant properties (Col. 21, lines 4 – 11).

Applicants recognize the necessity for preventing hydrolysis, which not only can result in deterioration of the polyester, but also can affect the performance of the dimethyl methyl phosphate. Dimethyl methyl phosphate is also an ester, and it would be subject to deterioration by hydrolysis, hence applicants' emphasis on preparing bone-dry masterbatch of the flame-retardant. Oishi'048 (Col. 21, line 10) teaches that phosphorous compounds can exert "a synergistic effect that a flame-retarding effect can be further improved". The synergistic effect works in the presence of compound B, given in Col. 8, lines 21 – 40, where compound B is a norbornenyl compound further consisting of a triazinyl and a carboxylate group. The Examiner does not address whether compound B, which is required for the performance phosphate compound cited in Oishi, is colorless. However, it is highly doubtful compound B would be useful in a transparent film, as a number of double bonds are present creating a conjugated double bond system, which to those familiar with the chemical art would predict that the according Woodward's Rules, compound B is probably colored. A colored additive would color the film. Also, Applicant does not teach that a norbornenyl triazinyl compound is required for flame stability, nor is it desired for preparing a transparent film, where the film and the components in the masterbatch must have thermostability.

Also, neither Rakos'505 nor Oishi'048 teach whether their films will past fire test DIN 4102 part I and II, and also UL 94. Furthermore, Rakos'505 and Oishi'048 does not disclose, nor are they concerned with concentrating the flame-retardant in an outer layer of a colored extruded film.

The Examiner on page 5 puts forth a compelling discussion on the relationship of luminescent transmittance, and haze as a consequence of film thickness. Applicants request that in addition to film thickness that the Examiner also considered the impact of out-gassing, and its effect on haze, luminescent and transmittance. Out-gassing could be deleterious to all these properties of transparent film, and could be influenced by the inclusion of hydrolysis stabilizers and the process by which the masterbatch is prepared.

Examiner cites Peiffer, U.S.P. 6,280,833, as a reference that teaches common additives, which can be used as stabilizers in many polymers. These stabilizers include phenolic stabilizers and metal/alkaline earth-metal stearates or carbonates.

Peiffer'833 stabilizer system is designed to be used with polypropylene, which has a significantly lower melting temperature than PET, and polypropylene is not subject to hydrolysis.

Claims 1, 2, and 3 have been amended adding criteria further defining a dried masterbatch. The specification teaches that a substantive factor for the invention is that the masterbatch, which comprises the flame-retardants, is pre-crystallized or pre-dried. The specification describes the criteria as how to obtain a "pre-dried masterbatch". Rakos and Oishi do not teach the utility of such a rigorous drying process. Hence, amended claims 1, 2, and 3, by extension 4 – 17, overcome the 103(a) rejection. Peiffer does not teach the utility of concentrating additives in two layers of a co-extruded transparent film. None of the cited references particularly address the issue of drying as it effects performance, particularly with respect to flame-retardency.

No new matter is included in this amendment, accordingly, entry is respectfully requested on behalf of the applicants.

Since the amendment to the claims does not add more claims then previously paid for, no additional fee is required.

Attached hereto is a marked-up version of the changes made to the specification and claims by the current amendment. The attached page is captioned **"Version With Marking to Show Changes Made"**.

In view of the foregoing Amendment and these Remarks, this Application is now

believed to be in condition for allowance and such favorable action is respectfully requested on behalf of Applicant.

Respectfully submitted,

A handwritten signature in black ink, appearing to read "K. Schweitzer".

Klaus Schweitzer  
(See attached Limited Recognition Form)  
ProPat, LLC  
2912 Crosby Road  
Charlotte, North Carolina 28211  
Telephone: (704) 365-4881  
Fax: (704) 365-4851

Attorney's Docket No. 00/001 MFE



VERSION WITH MARKINS TO SHOW CHANGES MADE

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In the Claims:

Claim 1 has been amended as follows:

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1. (Amended) A transparent polyester film comprising:

a pre-dried masterbatch having a vacuum pressure of less than 80 mbar at 130°C comprised of a polyester material and at least one flame retardant which is soluble in polyester; and

a polyester;

~~is fed directly by way of masterbatch technology during film production, where the masterbatch was obtained by gradual heating at subatmospheric pressure, with stirring.~~

Claim 2 has been amended as follows:

2. (Amended) The polyester film as claimed in claim 1, wherein the pre-dried masterbatch film comprises a hydrolysis stabilizer.

Claim 3 has been amended as follows:

3. (Amended) The polyester film as claimed in claim 1, wherein the pre-dried masterbatch ~~gradual heating at subatmospheric pressure, is further dried~~ with stirring to a lower vapor pressure, where the vacuum pressure is less than 50 mbar, is directly ~~followed by drying at constant, at 130°C elevated temperature, likewise at~~ subatmospheric pressure.

Claim 18 has been canceled.



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UNITED STATES PATENT AND TRADEMARK OFFICE**

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**Expires: December 5, 2002**

Harry I. Moatz  
Director of Enrollment and Discipline

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